

ABSTRACT

The invention relates to a self-igniting petrol internal combustion engine comprising at least one cylinder (1), a cylinder head (2) closing the cylinder (1), a piston (3) mounted in the cylinder (1) in a sliding manner, a combustion chamber (4) which is defined in the cylinder (1) between an upper face (3) of the piston (3) and a lower face (20) of the cylinder head (2), a means (5) for injecting petrol into the combustion chamber (4), admission valves (7) and exhaust valves (8) which selectively close the combustion chamber (4), and an injection pump (8) for supplying the injector (5) with petrol under pressure. According to the invention, the air-petrol mixture is spontaneously ignited in at least one range of operation of the engine as a result of the thermodynamic conditions in the combustion chamber (4). The inventive internal combustion engine is characterized in that the pressure of the petrol supplied to the injector exceeds 250 bar.